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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,177	07/06/2000	Howard Barr	SPIRIT.001A	5600

20995 7590 04/23/2002  
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EXAMINER

DINH, TIEN QUANG

ART UNIT

PAPER NUMBER

3644

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<i><b>Office Action Summary</b></i>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/611,177	BARR, HOWARD
<b>Examiner</b>	<b>Art Unit</b>	
T. Dinh	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 04 February 2002 .

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 18-40 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 18-40 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

PETER M. POON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.  
4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Specification***

The disclosure is objected to because of the following informalities: Please note that there is no mentioning of figure 8 in the brief description of the drawings. Figure 8 has not been submitted. Please submit this.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27-30, 32, 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 27-30, 32, 33, "the guidance system" lacks antecedent basis. Further, please note that the preamble of the claims differs from that of claim 24. Is the applicant claiming the guidance system or the control system?

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24, 26, 27, 32, 33, 34, 36, 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Jenkins.

Jenkins discloses a control system for a remote-controlled aircraft with a receiver 26, a control module 35 in communication with the receiver to send out modified signal to a control flight system, and positioning module 15 (see figure 1, column 3, lines 37-40). The control module is a microprocessor/microcontroller with inherently memory such as RAM (well known in today's computer technology) to store instructions. The control flight system is a servo, rudder, elevator, etc.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-21, 23, 25, 29-31, 35, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins in view of Meyer.

Jenkins discloses all claimed parts of the invention but is silent on the pulse-width modulated signals and the modified guidance signals to the control system that result in the aircraft entering a predetermined flight pattern in case of an emergency or any other situations. However, Meyer discloses that pulse-width modulated signals and

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modified guidance signals to change the flight pattern of the aircraft to a predetermined flight pattern in case of emergency or any other situations are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used pulse-width modulated signals and a computerized system in which modified guidance signals to change the flight pattern of the aircraft to a predetermined flight pattern in case of an emergency or any other situations in Jenkins' system as taught by Meyer to allow the aircraft to fly as desired and to prevent the aircraft from crashing.

Re claims 19, 29, and 39, a straight and level flight is a desired pattern that one skilled in the art could have implemented on the aircraft so that the aircraft can fly to the desired point without causing danger to the aircraft.

Re claim 31, it is obvious to one skilled in the art at the time the invention was made to have made the pulse-width modulated signals aligned with the leading edge to allow the aircraft to fly as desired by the pilot.

Re claim 40, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft be in a level flight circular pattern to allow the aircraft be in a desired area so that the aircraft can not be lost.

Re claims 20, 21, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft not turn at an angle greater than 20, 30, 40, 50, 69, 70, 80, and 90 to prevent a certain aircraft be out of control.

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Claims 22, 28, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins in view of Hulsing.

Jenkins discloses all claimed parts of the invention except for the accelerometer. However, Hulsing discloses that accelerometers are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used an accelerometers in Jenkins' system as taught by Hulsing to allow the aircraft to determine its acceleration.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins as modified by Meyer as applied to claims 22, and 20, 18 above, and further in view of Hulsing.

Jenkins as modified by Meyer discloses all claimed parts of the invention except for the accelerometer. However, Hulsing discloses that accelerometers are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used an accelerometers in Jenkins' system as modified by Meyer and as taught by Hulsing to allow the aircraft to determine its acceleration.

#### ***Response to Arguments***

In response to applicant's argument that Jenkins does not teach what has been claimed, the Examiner respectfully disagrees. Jenkins teaches an autopilot system that is used to control aircraft. An autopilot system is a system that is adapted to output

modified control signal to the flight control system. This clearly meets what is claimed.

By definition, an autopilot system is used to assist the pilot by enhancing the pilot control signal so as to prevent accidents or improve the control of the aircraft.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971), references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA) 1969. In this case, Meyer teaches the use of pulse-width modulated signals and predetermined flight pattern. It would have been obvious to one skilled in the art at the time the invention was made to have made the Jenkins's system use pulse-width modulated signals and predetermined flight pattern so that the aircraft will fly a certain pattern and to prevent accidents. There clearly is motivation to combine. Jenkins in view of Meyer clearly show what has been claimed.

As for the applicant's argument on claims 18-23, please note again that Jenkins discloses an autopilot. The autopilot read the signal of the positioning signals (see figure 1) to modify the control signals (which is what an autopilot does) sent to the flight control systems.

As for the argument on the Hulsing, it would have been obvious to used the accelerometer to determine the aircraft's acceleration.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Dinh whose telephone number is 703-308-2798. The examiner can normally be reached on Monday Through Friday 8-6, alternate Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-306-4195  
for regular communications and 703-306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the receptionist whose telephone number is 703-306-  
4177.

T. Dinh  
Examiner  
Art Unit 3644

TD  
April 20, 2002

  
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